

PATENT
Serial No.: 09/938,387
Docket No.: ST00015C1 (108-US-U2)

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IN THE SPECIFICATION:

Please replace the paragraph on page 5 lines 12-16, which begins with the phrase "The code is modulated onto the L1 carrier frequency", with the following rewritten paragraph:

- - The code is modulated onto the L1 carrier frequency. This signal is then received by the user and will have a Doppler shift. The receiver can remove the L1 carrier, leaving only the C/A code and Doppler. In order to filter out the noise between the 1 kHz frequencies an assist signal needs to be provided that places a ~~satellites~~ satellite's Doppler at an integer multiple of 1 kHz. The periodicity of the C/A signal limits the bandwidth of this assist signal to 1 kHz. - -

Please replace the paragraph beginning on page 5, line 21, and ending on page 6, line 6, which begins with the phrase "The C/A code repeats 20 times", with the following rewritten paragraph:

- - The C/A code repeats 20 times for every telemetry data bit. This repetition places the signal power in spectral lines spaced 1 kHz apart. The signal can be compressed without any loss of signal by transforming these 20 repetitions to the frequency domain and zeroing the frequency bins that have no signal. The remaining bins can be transformed back to the time domain with the bandwidth reduced by a factor of 20. The compression is the same as the number of repetitions used. If the 50 Hz telemetry data bit transitions are removed then more than 20 repetitions may be used. The factor limiting the number of repetitions that can be used now becomes the ~~users~~ user's motion. If the user motion is limited to 0.5 g acceleration then the bandwidth may be reduced by more than a factor of 100 without loss of signal. - -

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Please replace the paragraph beginning on page 8, line 22, and ending on page 9, line 3, which begins with the phrase "As described above, satellite Doppler 150", with the following rewritten paragraph:

- - As described above, satellite Doppler 150 and telemetry bits 152 can be mixed in mixer ~~154~~ 156 and transmitted to remote receiver 102 via radio link 104. Further, base station 106 can transmit the position of remote receiver 102 back to remote receiver 102 via radio link 104 for use by remote receiver 102 in location services, dead reckoning, E911 situations, or other areas or services where remote receiver 102 would need a position calculation. - -